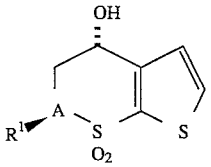
acid (ca 50 mL). The aqueous layer is washed with THF twice. The THF layers are combined and concentrated. The material is suspended again in THF and water is added carefully. Brown crystals form and a yellow aqueous solution remains. The mixture is filtered and the crystals are dried in vacuo. The yield of acetamidosulfonamide is 5.58 g (66%).

Step 3: Procedure:

Acetamidosulfonamide (4.21 g, 11.5 mmol) is dried by distillation with THF (2×100 mL portions) in a 250 mL flask. The flask is equipped with a magnetic stirrer, a thermocouple probe and a nitrogen inlet. The acetamidosulfonamide suspension in 22.5 mL of THF is then cooled to 0°–5° C. Borane-THF (51 mL, 51 mmol) is added dropwise over 45 minutes while maintaining the intemal temperature below 5° C. After the evolution of hydrogen is complete (20 minutes), the solution is warmed to 30°–35° C. After the reaction is complete (3 h), the mixture is cooled to room temperature. A 250 mL, round bottom flask, equipped with magnetic stirrer, thermocouple probe and nitrogen inlet, is charged with sulfuric acid (60 mL) and cooled to 0°–5° C. The reduction mixture is then metered carefully into the well-stirred acid solution while the internal temperature is maintained below 20° C. After the addition, the mixture is stirred at room temperature until the evolution of hydrogen is complete. The flask is then set for distillation (1 atm) and the mixture concentrated until the internal temperature is >97° C. After the distillation is complete, the mixture is cooled to 20° C. The mixture is then neutralized with aqueous potassium bicarbonate and extracted with ethyl acetate (100 ml). The organic layer is concentrated to yield 3.45 g of 5,6 dihydro-6-(S)-propyl-4(S)-1-ethylamino-4H-thieno [2,3-b] thiopyran-2-sulfonamide 7,7-dioxide.

What is claimed is:

1. A process for the preparation of a compound of Formula II:



II

wherein A is carbon or nitrogen and R^1 is:

a) C_{1-5} alkyl, either straight or branched chain;

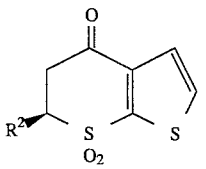
b) C_{3-5} alkenyl;

c) C_{3-5} alkynyl;

d) hydrogen; or

e) C_{1-4} alkoxy-C_{1-4} alkyl,

comprising the steps of culturing a microorganism selected from the group consisting of *Rhodotorula rubra*, ATCC 74283 and *Rhodotorula pilirninae* ATCC 32762 in a nutrient medium containing assimilable sources of nitrogen and carbon and a substrate of Formula III:



III

wherein R^2 is

a) C_{1-5} alkyl, either straight or branched chain;

b) C_{3-5} alkenyl;

c) C_{3-5} alkynyl;

d) hydrogen; or

e) C_{1-4} alkoxy-C_{1-4} alkyl

under aerobic conditions until a recoverable amount of the compound of Formula II is produced and isolating the compound of Formula II.

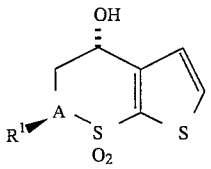
2. The process of claim **1** wherein the microorganism is *Rhodotorula rubra*, ATCC 74283, the substrate is dissolved in from about 1% to about 15% v/v of ethanol, methanol or DMSO, and the amount of substrate is from about 1 to about 3 g/L.

3. The process of claim **2** wherein the substrate is dissolved in from about 1% to about 3% v/v of DMSO and the amount of substrate is from about 1 to about 3 g/L.

4. The process of claim **1** wherein the temperature is from about 20° to about 50° C., and the pH is from about 4.5 to 8.0.

5. The process of claim **1** wherein the temperature is from about 30° to about 35° C. and the pH is from about 5.5 to about 6.5.

6. A process for the preparation of a compound of Formula II:



II

wherein A is carbon or nitrogen and R^1 is:

C_{1-5} alkyl, either straight or branched chain;

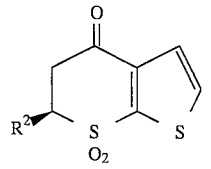
b) C_{3-5} alkenyl;

c) C_{3-5} alkynyl;

d) hydrogen; or

e) C_{1-4} alkoxy-C_{1-4} alkyl,

comprising the steps of culturing *Rhodotorula rubra*, ATCC 74283 in a nutrient medium containing assimilable sources of nitrogen and carbon and a substrate of Formula III:



III

wherein R^2 is

a) C_{1-5} alkyl, either straight or branched chain;

b) C_{3-5} alkenyl;

c) C_{3-5} alkynyl;

d) hydrogen; or

e) C_{1-4} alkoxy-C_{1-4} alkyl

under aerobic conditions until a recoverable amount of the compound of Formula II is produced and isolating the compound of Formula II, wherein the substrate is dissolved in from about 1% to about 15% v/v of ethanol, methanol or DMSO, and the amount of substrate is from about 1 to about 3 g/L, the temperature is from about 20° to about 50° C., and the pH is from about 4.5 to 8.0.

7. The process of claim **6** wherein the substrate is dissolved in from about 1% to about 3% v/v of DMSO, the amount of substrate is from about 1 to about 3 g/L, the temperature is from about 30° to about 35° C. and the pH is from about 5.5 to about 6.5.

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